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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,314	02/09/2005	Ken Makita	60303.49	6465
54070 7590 02/19/2008 HITACHI METALS, LTD. C/O KEATING & BENNETT, LLP 8180 GREENSBORO DRIVE SUITE 850 MCLEAN, VA 22102				
EXAMINER BARRERA, RAMON M				
ART UNIT 2832		PAPER NUMBER		
NOTIFICATION DATE 02/19/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/524,314

Applicant(s)

MAKITA ET AL.

Examiner

RAMON M. BARRERA

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date 2/9/05, 4/4/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Nd from category A and Dy from category B in the reply filed on 11/13/07 is acknowledged.
2. The remaining species are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "at least a portion of the outer periphery of the magnet assembly is covered with a ferromagnetic material" (claim 28), must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 24-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 24, "substantially in a ring" is indefinite. The magnetic field generator is shown in fig. 3 and described in applicant's specification on page 20 as a "C (or U)" arrangement. In claim 25, "the sintered magnet" lacks antecedent basis. In claim 34, "the second plane" lacks antecedent basis. Claims 25-36 inherit the defect in their parent claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 19 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ito, et al.(NPL), cited on applicant's IDS. Ito in Table 1, line 2, discloses the claimed material.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over TDK Corp(JP2002-299110), cited in applicant's IDS, in view of applicant's admitted prior art.

TDK Corp in samples 1-3 and 5-13 disclose the claimed materials and properties. TDK was silent in regards to employing magnet structural dimensions which result in a permeance coefficient of 0.5 or more. Applicant's specification on page 27 discloses the desirability of using magnet shapes having permeance coefficient values above 0.5 for the purpose of avoiding generation of an anti-magnetic field. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ magnet shapes having permeance coefficient values above 0.5 for the purpose of avoiding generation of an anti-magnetic field.

10. Claims 24-27, 29, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee(NPL) in view of TDK Corp, cited above.

Lee in fig. 2 discloses a magnetic field generator including a plurality of NdFeB permanent magnets that are arranged substantially in a ring so as to define a magnetic

field generating space; wherein the permanent magnets include a first magnet 1 through a seventh 7 magnet, further comprising a mechanism (refrigerants) for keeping the temperature of the permanent magnets lower than room temperature. In regards to the claimed intended use in an environment in which the magnetic field generator is exposed to a radiation at an absorbed dose of at least 3,000 Gy, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Lee did not disclose wherein the magnet has been magnetized to a permeance coefficient of 0.5 or more and has a coercivity of 1.6 MA/m or more, or a composition in the claimed ranges. Lee employs permanent magnet material in a Hollow Cylindrical Permanent Magnet Array(HCPMA). It was known to employ both high remanence and high coercivity magnetic material in HCPMA arrays for the purpose of providing a strong magnetic field in a working air gap as well as for the purpose of preventing mutual demagnetization of component permanent magnets. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ TDK's permanent magnet material in Lee for the purpose of providing a high remanence and high coercivity permanent magnets.

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee(NPL) in view of TDK Corp, cited above, and further in view of Stelter(US5635889).

Lee(NPL) in view of TDK Corp did not disclose wherein at least a portion of the outer periphery of the magnet assembly is covered with a ferromagnetic material.

Stelter in fig. 9 discloses ferromagnetic outer shell (900-903) for the purpose of reducing leakage flux and ease of assembly (col. 10, lines 40-63). Since Lee and Stelter are all from the same field of endeavor (col. 1, lines 59-60), the purpose disclosed by Stelter would have been recognized in the pertinent art of Lee. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ an outer ferromagnetic material for the purpose of reducing leakage flux and ease of assembly.

12. Claims 24-26, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelter in view of TDK Corp, both references previously cited.

Stelter in fig. 8 discloses a magnetic field generator including a plurality of NdFeB permanent magnets (col. 9, line 6) that are arranged substantially in a ring so as to define a magnetic field generating space; wherein the permanent magnets include a first 704 and second magnet 705; wherein each of the permanent magnets has a rectangular parallelepiped shape. In regards to the claimed intended use in an environment in which the magnetic field generator is exposed to a radiation at an absorbed dose of at least 3,000 Gy, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Stelter did not disclose wherein the magnet has been magnetized to a permeance coefficient of 0.5 or more and has a coercivity of 1.6 MA/m or more, or a composition in the claimed ranges. Stelter employs permanent magnet material in an

HCPMA array. It was known to employ both high remanence and high coercivity magnetic material in HCPMA arrays for the purpose of providing a strong magnetic field in a working air gap as well as for the purpose of preventing mutual demagnetization of component permanent magnets. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ TDK's permanent magnet material in Stelter for the purpose of providing a high remanence and high coercivity permanent magnets.

13. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stelter in view of TDK Corp, both references previously cited, and further in view of Ohkawa.

Stelter in view of TDK Corp did not disclose a shielding plate with a thickness of at least 0.1 mm, which is provided between the magnetic field generator and a source of a radiation. Ohkawa disclosed providing a shielding plate 96 with a thickness of at least 0.1 mm, which is provided between the magnetic field generator 60 and a source of a radiation for the purpose of shielding the magnetic field generator. Since Stelter and Ohkawa are both from the same field of endeavor, the purpose disclosed by Ohkawa would have been recognized in the pertinent art of Stelter. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ a shielding plate with a thickness of at least 0.1 mm, which is provided between the magnetic field generator and a source of a radiation in Ohkawa for the purpose of shielding the magnetic field generator.

14. Claims 24-27, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leupold (US5347254) and Leupold (H591), incorporated by reference, in view of TDK Corp, previously cited.

Leupold(US5347254) in figs. 1-2 discloses a magnetic field generator including a plurality of NdFeB permanent magnets (H591)) that are arranged substantially in a ring so as to define a magnetic field generating space; wherein the permanent magnets include a first 18 and second magnet 20; wherein a ferromagnetic body (14,16), which changes its thickness is provided on each of opposed surfaces of the first and second magnets. In regards to the claimed intended use in an environment in which the magnetic field generator is exposed to a radiation at an absorbed dose of at least 3,000 Gy, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Leupold did not disclose wherein the magnet has been magnetized to a permeance coefficient of 0.5 or more and has a coercivity of 1.6 MA/m or more, or a composition in the claimed ranges. Leupold employs permanent magnet material in an HCPMA array. It was known to employ both high remanence and high coercivity magnetic material in HCPMA arrays for the purpose of providing a strong magnetic field in a working air gap as well as for the purpose of preventing mutual demagnetization of component permanent magnets. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ TDK's permanent

magnet material in Leupold for the purpose of providing a high remanence and high coercivity permanent magnets.

15. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leupold (US5347254) and Leupold (H591) in view of TDK Corp, cited above, and further in view of Stelter(US5635889).

Leupold in view of TDK Corp did not disclose wherein at least a portion of the outer periphery of the magnet assembly is covered with a ferromagnetic material. Stelter in fig. 9 discloses ferromagnetic outer shell (900-903) for the purpose of reducing leakage flux and ease of assembly (col. 10, lines 40-63). Since Leupold and Stelter and are all from the same field of endeavor (col. 1, lines 59-60), the purpose disclosed by Stelter would have been recognized in the pertinent art of Leupold. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ an outer ferromagnetic material for the purpose of reducing leakage flux and ease of assembly.

Allowable Subject Matter

16. Claims 30-31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art of record taught or reasonably suggested additional magnets forming a moving magnetic circuit portion, which couples magnetically to at

least some of the permanent magnets, and are supported such that their positions relative to the magnetic field generating space are changeable.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMON M. BARRERA whose telephone number is (571)272-1987. The examiner can normally be reached on Monday through Friday from 11 to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ramon M Barrera/
Primary Examiner, Art Unit 2832

